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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/586,571 | 06/02/2000 | Mark A. Webster | INSL:0012 | 6023 |

26122 7590 06/14/2005

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EXAMINER

STEVENS, ROBERTA A

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2665

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/586,571

Applicant(s)

WEBSTER ET AL.

Examiner

Roberta A. Shand

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-20,22-36 and 38-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-7,10-17,20,22-30,34-36,38-43 and 46 is/are rejected.
- 7) ☒ Claim(s) 8,9,18,19,31-33,44 and 45 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3, 6-18, 20, 22-31, 35, 36 and 38-43 are rejected under 35 U.S.C. 102(e) as being anticipated by Andren (U.S. 6678310 B1).

3. Regarding claim 1, Andren teaches (figs. 1A-1C) a transmitter that uses a dual packet configuration for wireless communication, comprising: a first modulator that modulates a first portion of each packet (header) solely according to a serial modulation (col. 6, lines 41-51 and fig. 1H); and a second modulator that modulates a second portion of each packet solely according to a parallel modulation (col. 8, lines 37-45); the serial modulation is DSSS (fig. 1H); and the parallel modulation is OFDM (col. 20, lines 32-65).

4. Regarding claim 3, Andren teaches (figure 1C) teaches the first portion including a preamble and a header.

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5. Regarding claims 6 and 22, Andren teaches (col. 8) the header indicating an OFDM mode bit (Andren teaches that the reference phase of the first symbol of the variable portion of the packet is the output phase of the last symbol of the header).
6. Regarding claims 7, 23 and 38, Andren teaches (fig. 1C) the header including a length field indicating the duration of the second portion.
7. Regarding claim 8, Andren teaches (col. 20, lines 32-65) the second portion comprising an OFDM (high data rate modulation) synchronization pattern; an OFDM (high data rate modulation) signal symbol; and an OFDM (high data rate modulation) payload, the OFDM (high data rate modulation) signal symbol including a data rate section and a data count section.
8. Regarding claim 9, Andren teaches (col. 20, lines 32-65) the OFDM (high data rate modulation) signal symbol including a data rate section and a data count section.
9. Regarding claim 10, 24, 39 and 40, Andren teaches (fig. 1E) the first portion based on a first clock fundamental; and the second portion based on a second clock fundamental.
10. Regarding claims 11, 12, 25 and 26, Andren teaches (fig. 1E) the clock fundamental ranging from 13MHz to 22 MHz.

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11. Regarding claims 13, 27 and 41 , Andren teaches (col. 20, lines 32-65) the second portion including (OFDM (high data rate modulation) symbols wherein each OFDM (high data rate modulation) symbol includes a guard interval with a standard number of samples for OFDM (high data rate modulation).

12. Regarding claims 14, 28 and 42, Andren teaches (col. 20, lines 32-65) the second portion including (OFDM (high data rate modulation) symbols wherein each OFDM (high data rate modulation) symbol includes a guard interval with an increases number of samples.

13. Regarding claims 15, 29 and 43, Andren teaches (col. 20, lines 32-65) the second portion including OFDM (high data rate modulation) symbols wherein each OFDM (high data rate modulation) symbol includes a reduced number of frequency subcarriers.

14. Regarding claim 16, Andren teaches (col. 20, lines 32-65) each OFDM (high data rate modulation) symbol includes 48 frequency subcarriers.

15. Regarding claims 17 and 30, Andren teaches (fig. 1E) each of the frequency subcarriers is a data subcarrier.

16. Regarding claims 18 and 31, Andren teaches (cols. 8-9) the frequency subcarriers include at least one pilot tone.

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17. Regarding claim 20, Andren teaches (figs. 1A-1C) a wireless communication device that is configured to communicate using a dual packet configuration, comprising: a transmitter configured to transmit packets with a dual configuration; a receiver configured to receive packets with a dual configuration; and the dual packet configuration including first and second portions, the first portion modulated solely according to a serial modulation method and the second portion (payload) modulated according to a parallel modulation method. Andren also teaches (column 8) a header being modulated using BPSK which offer the same result as DSSS and the variable data (payload) maybe modulated in different formats than the header portion which includes OFDM

18. Regarding claim 35, Andren teaches (col. 9) the transmitter and receiver each are configured to operate in the 2.4 GHz frequency band.

19. Regarding claim 36, Andren teaches (figs. 1A-1C) a method of wireless communication using a dual packet communication, comprising: modulating a first portion of each packet solely according to a serial modulation; and modulating a second portion (payload) of each packet according to a parallel modulation (col. 8, lines 37-45); the serial modulation is DSSS (fig. 1H); and the parallel modulation is OFDM (col. 20, lines 32-65).

Claim Rejections - 35 USC § 103

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

22. Claims 1, 3-18, 20, 22-31, 34-36, 38-43 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Preuss in view of Boer (U.S. 5706428).

23. Regarding claim 1, Preuss teaches (fig. 3 and column 6) a transmitter that uses a dual packet configuration for wireless communication, comprising: a first modulator that modulates a first portion of each packet (header) solely according to a serial modulation (BPSK); and a second modulator that modulates a second portion of each packet (payload) solely according to a parallel modulation (col. 4, lines 1-14, FFT implies OFDM).

24. Preuss does not specifically teach the header being modulated using DSSS.

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25. Boer teaches (abstract and col. 4, lines 25-40) using BPSK uses DSSS coding. Therefore the use of DSSS in Pruess' system would have been obvious as it is well known in the art and inherent is using BPSK.

26. Regarding claim 20, Preuss teaches (figure 3 and column 6) a wireless communication device that is configured to communicate using a dual packet configuration, comprising: a transmitter configured to transmit packets with a dual configuration; a receiver configured to receive packets with a dual configuration; and the dual packet configuration including first and second portions, the first portion modulated solely according to a serial modulation (BPSK) method and the second portion modulated according to a parallel modulation method (col. 4, lines 1-14, FFT implies OFDM).

27. Preuss does not specifically teach the header being modulated using DSSS.

28. Boer teaches (abstract and col. 4, lines 25-40) using BPSK uses DSSS coding. Therefore the use of DSSS in Pruess' system would have been obvious as it is well known in the art and inherent is using BPSK.

29. Regarding claim 36, Preuss teaches (figure 3 and column 6) a method of wireless communication using a dual packet communication, comprising: modulating a first portion (header) of each packet solely according to a serial modulation (BPSK); and modulating a second portion (payload) of each packet according to a parallel modulation (col. 4, lines 1-14, FFT implies OFDM).

30. Preuss does not specifically teach the header being modulated using DSSS.

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31. Boer teaches (abstract and col. 4, lines 25-40) using BPSK uses DSSS coding. Therefore the use of DSSS in Pruess' system would have been obvious as it is well known in the art and inherent is using BPSK.

32. Regarding claim 3, Boer teaches (abstract) teaches the first portion including a preamble and a header.

33. Regarding claims 4 and 5, as for the preamble being long or short, it would have been obvious to one of ordinary skill in the art to adapt to Boer's system either long or short preambles to enhance the scope of the invention.

34. Regarding claims 6, 22 and 38, Pruess teaches (cols. 5, lines 27-35) the header indicating an OFDM mode bit.

35. Regarding claims 7, 23 and 38, Boer teaches (abstract) the header including a length field indicating the duration of the second portion.

36. Regarding claim 10, 24, 39 and 40, Boer teaches (fig. 8) the first portion based on a first clock fundamental; and the second portion based on a second clock fundamental.

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37. Regarding claims 11, 12, 25 and 26, as for the clock fundamental ranging from 13MHz to 22 MHz, it would have been obvious to one of ordinary skill in the art to adapt to Pruess and Boer's system this range to enhance the scope of the system.

38. Regarding claims 13, 27 and 41, Pruess teaches (col. 11, lines 20-67) the second portion including (OFDM symbols wherein each OFDM symbol includes a guard interval with a standard number of samples for OFDM.

39. Regarding claims 14, 28 and 42, Pruess teaches (col. 11, lines 20-67) the second portion including (OFDM symbols wherein each OFDM symbol includes a guard interval with an increases number of samples.

40. Regarding claims 15, 29 and 43, Pruess teaches (col. 11, lines 20 - col. 12) the second portion including OFDM symbols wherein each OFDM symbol includes a reduced number of frequency subcarriers.

41. Regarding claim 16, Pruess teaches (col. 11, lines 20-67) each OFDM symbol includes 48 frequency subcarriers.

42. Regarding claims 17 and 30, Pruess teaches (col. 11, lines 20-67) each of the frequency subcarriers is a data subcarrier.

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43. Regarding claims 34 and 46, Pruess teaches (fig. 4) a standard mode of communication as modulating both header and payload in using serial modulation.

44. Regarding claim 35, as for the transmitter and receiver each are configured to operate in the 2.4 GHz frequency band, it would have been obvious to one of ordinary skill in the art to adapt to Pruess and Boer 2GHz or any values desired as this is a well known value to use.

Allowable Subject Matter

45. Claims 8, 9, 18, 19, 31-33, 44 and 45 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

46. Applicant's arguments filed January 21, 2005 have been fully considered but they are not persuasive. Applicant argues that Andren does not teach first modulator modulates solely according to serial modulation where the serial modulation is DSSS and the second modulator modulates solely according to parallel modulation, where the parallel modulation is OFDM. Applicant is directed to column 6 and figure 1H where it is depicted DSSS modulation and column 20, lines 32-65 where OFDM modulation is explained.

Conclusion

47. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

48. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

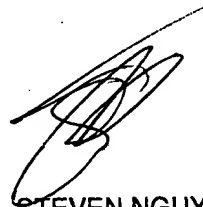
49. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roberta A Shand whose telephone number is 571-272-3161. The examiner can normally be reached on M-F 9:00am-5:30pm.

50. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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51. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Roberta A Shand
Examiner
Art Unit 2665

A handwritten signature in black ink, appearing to read 'STEVEN NGUYEN', written over a horizontal line.

STEVEN NGUYEN
PRIMARY EXAMINER